

REMARKS

These remarks are in response to the Office Action mailed May 11, 2004. Claim 1 has been amended. Support for the amendment to claim 1 can be found throughout the specification as originally filed. For example, support for a data storage device can be found at paragraph 44 at page 21. No new matter is believed to have been introduced.

I. NON-STATUTORY TYPE DOUBLE PATENTING

Claims 1-15 stands rejected under the judicially created doctrine of obviousness-type double patenting as allegedly unpatentable over claim 1 of U.S. Patent No. 6,350,369. Applicants respectfully traverse this rejection.

Applicants submit, herewith, a Terminal Disclaimer to overcome this rejection. Accordingly, the rejection may be withdrawn.

II. REJECTION UNDER 35 U.S.C. §112, FIRST PARAGRAPH

Claims 1, 2 and 9-15 stand rejected under 35 U.S.C. §112, first paragraph because while the specification is enabling for predicting the inhibitory action of alcohols on cytochrome P-450 aniline p-hydroxylation and perhaps some other properties of alcohols or simple organic molecules, such as vapor pressure, the specification allegedly does not provide enablement for predicting or determining the specific activity, chemical or physical property, or function of compounds other than alcohols. Applicants respectfully traverse this rejection.

Applicants submit that the specification is enabling for the device and methods of the claimed invention. Applicants have demonstrated that the structure, function, and/or activity of an analyte of interest can be predicted based upon information of related molecules (not including the analyte of interest) having similar signal profiles. Here, Applicants have demonstrated the applicability of the methods and systems of the invention based upon analytes that include alcohols. Using the methods and systems of the invention, Dr. Lewis has tested additional agents (in addition to alcohols), this data is presented in the attached peer reviewed journal article (see Appendix A, which is provided as additional proof of principle).

Applicants submit that the claimed invention may be broader than the particular embodiment shown in the specification. What the Patent Office is here apparently attempting is to limit all claims to the specific examples, notwithstanding the disclosure of a broader invention. This it may not do. *In re Anderson*, 176 USPQ 331, 333 (CCPA 1973). A patentee is not only entitled to narrow claims particularly directed to a single embodiment, but also to broad claims which define the invention without a reference to specific instrumentalities. *Smith v. Snow*, 294 U.S. 1, 11, 24 USPQ 26, 30. In *In re Goffe*, 542 F.2d 564, 567, 191 USPQ 429, 431 (CCPA 1976), the court stated:

to provide effective incentives, claims must adequately protect inventors. To demand that the first to disclose shall limit his claims to what he has found will work or to materials, which meet the guidelines, specified for "preferred" materials in a process such as the one herein involved would not serve the constitutional purpose of promoting progress in the useful arts.

Applicants submit that the methods and the systems described in the disclosure are applicable to a wide range of analyte species as described in the specification and further demonstrated by the attached paper (see Appendix A). As described in the specification the plurality of sensors probe a plurality of structural-physical characteristics of an analyte (e.g., charge, hydrophobicity, hydrophilicity, and the like). As such, the ability of the sensor system to draw upon data specific for an analyte's interaction with a plurality of sensors is used to similarly compare that information to other analytes that interact with a similar sensor array. As concerns the breadth of a claim relevant to enablement, the only relevant concern should be whether the scope of enablement provided to one skilled in the art by the disclosure is commensurate with the scope of protection sought by the claims. *In re Moore*, 439 F.2d 1232, 169 USPQ 236 (CCPA 1971); MPEP §2164.08. How a teaching is set forth, by specific example or broad terminology, is not important. *In re Marzocchi*, 439 F.2d 220, 169 USPQ 367 (CCPA 1971); MPEP §2164.08. Further the scope of enablement must only bear a "reasonable correlation" to the scope of the claims. *In re Fisher*, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970). Applicants submit that the methods and systems are applicable to a wide range of analyte species and correlate with the specific examples provided by the disclosure.

Furthermore, the Examiner will recognize that it is manifestly impracticable for an applicant who discloses a generic invention to give an example of every species falling within it, or even to name every such species. It is sufficient if the disclosure teaches those skilled in the art what the

invention is and how to practice it. *In re Grimme, Keil and Schmitz*, 124 USPQ 449, 502 (CCPA 1960). A disclosure of every operable species is not required. One method is sufficient. So long as the specification discloses at least one method for making and using the claimed invention that bears a reasonable correlation to the entire scope of the claim, then the enablement requirement of Section 112 is satisfied. *In re Fisher*, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970). A single embodiment may provide broad enablement in cases involving predictable factors, such as mechanical or electrical elements. *In re Vickers*, 141 F.2d 522, 61 USPQ 122 (CCPA 1944); *In re Cook*, 439 F.2d 730, 169 USPQ 298 (CCPA 1971). The scope of the required enablement varies inversely with the degree of predictability involved, but even in unpredictable arts, a disclosure of every operable species is not required. MPEP §2164.03. Here, measuring signal profiles such as, e.g., changes in resistance across a sensor are predictable factors that can be measured and performed across numerous analyte species.

Thus, the case law clearly indicates that (1) the testing of every operable species is manifestly impractical and not required; (2) that enablement is satisfied if there is a reasonable correlation between the specific example, and the breadth of the claims; and (3) that for predictable factors (such as mechanical and electrical elements) a single embodiment may provide broad enablement. Here, Applicants (1) demonstrated alcohol as a species as well as further identified in Appendix A; (2) these species have a reasonable correlation to other molecular analytes; and (3) the systems and methods of the

invention are based upon predictable factors including electrical and mechanical measurements to obtain signal profiles. Accordingly, Applicants respectfully request withdrawal of the rejection.

Claims 3-8 stand rejected under 35 U.S.C. §112, first paragraph as allegedly failing to comply with the enablement requirement. The claims allegedly contain subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicants respectfully traverse this rejection.

As described above, the invention probes a plurality of properties of an analyte. These properties are measured through signal changes in individual sensors in an array and the plurality of signals (signal profile) from the sensor array are indicative of the properties of the analyte. The methods and systems of the invention were demonstrated by various species of alcohol and that this data has a reasonable correlation to other species of analytes. Accordingly, Applicants respectfully request withdrawal of the §112, first paragraph rejection.

III. REJECTION UNDER 35 U.S.C. §102

Claims 1, 2 and 11 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Buchelli (EP 0398706). Applicants respectfully traverse this rejection.

Applicants submit that Buchelli does not teach a polymer sensor but rather teaches the measurement of polymers. Furthermore, Applicants submit that Buchelli teach that the

dataset obtained by the method of the Buchelli is compared to a dataset already obtained for the same polymer materials (see, Claim 1 of Buchelli, part a and b). This is contrary to Applicants' claimed invention, which does not require that the analyte being probed to have been previously probed by the sensor array (see, e.g., claim 1). Thus, Applicants respectfully request withdrawal of the rejection.

Claims 1-4, 11 and 12 stand rejected under 35 U.S.C. §102(a) as allegedly anticipated by Shiers et al. ("Use of multi-sensor array devices to attempt to predict shelf-lives of edible oils"). Applicants respectfully traverse this rejection.

Applicants' submit that the methods of Shiers et al. require the training of the system with various oils prior to be contacting with the experimental oil (see, "Experimental conditions and procedures" section). Thus, Shiers et al., trains the computer with analytes that will later be measured. This is contrary to Applicants' claimed invention, which recites, "wherein the computer is operative to compare the sensor array signal profile to the plurality of previously obtained signal profiles from the plurality of standard samples not including the analyte of interest". (See, e.g., claim 1; emphasis added).

Thus, Shiers et al. do not teach or suggest each and every element of Applicants' claimed invention. Accordingly, Applicants respectfully request withdrawal of this rejection.

Claims 1-4, 11, 12, 14 and 15 stand rejected under 35 U.S.C. §102(a) as allegedly anticipated by Bodenhofer et al.

("Chiral Discrimination by Simple Gas Sensors, Transducers, 1997). Applicants respectfully traverse this rejection.

Applicants direct the Examiner to Figure 1 of Bodenhofer et al., which demonstrates that the sensor is predesigned with "ligands" (i.e., enantioselective sensor coating of Octyl-Chirasil-Val) that select for certain chiral analytes. Furthermore, the polymers are designed to be chiral to differentiate the chiral analytes (see, page 1392, first column, "Chiral Discrimination"). Bodenhofer et al. thus uses sensors that are pre-determined to probe a specific characteristic such that the identification of the analyte is predetermined based upon which sensor is "activated". Thus, Bodenhofer et al. do not "compare the signal profiles to a the plurality of standard samples not including the analyte of interest", but rather measures what can be analogized to a "+" or "-" activation system.

Thus, Bodenhofer does not teach or suggest each and every element of Applicants' claimed invention. Accordingly, the rejection may be withdrawn.

IV. REJECTION UNDER 35 U.S.C. §103

Claims 9 and 10 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Bodenhofer. Applicants respectfully traverse this rejection.

Bodenhofer has been addressed above. Applicants submit that Bodenhofer do not teach or suggest each and every element of Applicants' claimed invention.

Applicant : Nathan S. Lewis et al.
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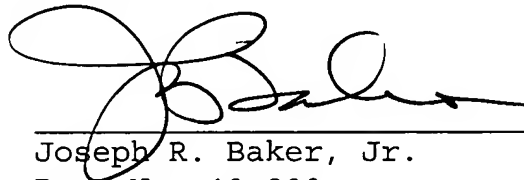
Attorney's Docket No.: 06618-895002 / CIT 2744C

Enclosed is a \$55 check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050.

Date: _____

8/27/04

Respectfully submitted,



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